

IN THE CLAIMS

1. (original) A circuit for generating a control signal for controlling the output power of a power amplifier of a wireless device by comprising:
a power detector coupled to the output of the power amplifier for generating a detector output signal; and
a variable gain amplifier coupled to the power detector for amplifying the detector output signal to a desired level, wherein the value of the control signal generated by the circuit is a function of the gain of the variable gain amplifier.
2. (original) The circuit of claim 1, further comprising a conditioning circuit coupled to the variable gain amplifier for conditioning an output of the variable gain amplifier, wherein an output signal of the conditioning circuit is the control signal.
3. (original) The circuit of claim 2, further comprising:
a sense circuit coupled to an output of the variable gain amplifier; and
an op amp having an output and first and second inputs, wherein the first input is coupled to an output of the sense circuit and the second input is coupled to a reference signal for creating a gain control signal at the output of the op amp.
4. (original) The circuit of claim 3, wherein the reference signal is a DC signal.
5. (original) The circuit of claim 3, wherein the gain control signal is used to control the gain of the variable gain amplifier.
6. (original) The circuit of claim 3, wherein the sense circuit is comprised of a first peak detector.
7. (original) The circuit of claim 6, further comprising a second peak detector coupled between the reference signal and the second input of the op amp.

8. (original) The circuit of claim 7, wherein the first and second peak detectors are matched.
9. (original) The circuit of claim 3, wherein the reference signal is an RF signal.
10. (original) The circuit of claim 1, wherein the power detector is comprised of a directional coupler.
11. (original) The circuit of claim 1, wherein the variable gain amplifier is comprised of a multi-stage variable gain amplifier.
12. (original) The circuit of claim 11, wherein the variable gain amplifier is comprised of six stages.
13. (original) The circuit of claim 11, wherein each stage of the variable gain amplifier is controlled by the gain control signal.
14. (original) The circuit of claim 1, wherein the wireless device is a cellular telephone.
15. (original) The circuit of claim 1, wherein the power amplifier and the variable gain amplifier reside together on an integrated circuit.
16. (original) The circuit of claim 15, wherein the integrated circuit is a flip chip semiconductor.
17. (original) The circuit of claim 16, further comprising a ceramic chip carrier for carrying the flip chip semiconductor, wherein one or more components of the circuit reside on the ceramic chip carrier.
18. (original) The circuit of claim 1, wherein the power amplifier further comprises:
a first switching device connected between a first supply voltage and a first output node;
a second switching device connected between a second supply voltage and a second output node;
and
an inductance coupled between the first and second output nodes.
19. (original) A power detector for an RF power amplifier comprising:

a directional coupler for detecting RF power;

a variable gain amplifier having an input and an output, wherein the input is coupled to the directional coupler;

a sense circuit coupled to the output of the variable gain amplifier for rectifying the output of the variable gain amplifier;

an op amp for generating a gain control signal based on the rectified output of the sense circuit and a reference signal, wherein the gain control signal is provided to the variable gain amplifier to control the gain of the variable gain amplifier; and

conditioning circuitry for conditioning the gain control signal for use in controlling the output power of the RF power amplifier.

20. (original) The power detector of claim 19, wherein the RF power amplifier is a power amplifier for a wireless communication device.

Claims 21-36 (canceled)